REMARKS

Pending Claims

Applicants have canceled claims 5-10, 12, 14, 16 and 18 without prejudice or disclaimer. Applicants have added new claims 19-34. No new matter has been added to the application.

35 U.S.C. §§102 and 103

New claims 19-34 are patentable over the art of record, and in particular Dettinger et al., U.S. Publication No. 2003/0093413, and the combination of Dettinger and Jones et al., U.S. Publication No. 2002/0169794. The cancellation of claims 5-10, 12, 14, 16 and 18 without prejudice or disclaimer renders moot the rejections under 35 U.S.C. §102(e) of claims 5-19, 12, 14, 16 and 18 as being anticipated by Dettinger; and the rejection of claim 10 under 35 U.S.C. §103(a) as being unpatentable over Dettinger in view of Jones. Claims 19-34 are not subject to these rejections for the following reasons.

Claims 19-27, 28 and 29 are the independent claims that have been added by the present amendment. New claims 19 and 27 are directed to a computer system of the invention that includes the access history management device and a plurality of information resource management devices coupled to a storage device and to a client computer. Claim 28 is directed to a management method, as were cancelled claims 14 and 16. Claim 29 is directed to an access history management device, as was cancelled claim 5.

The new claims find support in the originally filed application with reference to the second embodiment of the invention set forth in Figures 9-13. Figure 9 shows a computer system 2000 including an access history manager 200, control nodes CN1-CN3 and client computers CLN1-CLN3 respectively connected with the local area networks LAN1-LAN3 and the storage nodes SN1-SN3 that are coupled with the respective control nodes. See page 19, lines 18-25 of the specification.

The access history collection unit 203 collects the access history of each of the control nodes, for example at predetermined intervals, and stores them into an access history 205, as shown in Figure 10A. In an example in which client CLN3 frequently sends an access request for the file ID 1002 via the control node CN2, the file ID 1002 becomes the subject of migration or replication so as to transfer the frequently accessed file to the control node CN3. The access history manager 200 sends an acquisition instruction for the file ID 1002 to the control node CN3 and the control node CN3 refers to a file location information 108 to identify the storage nodes storing the file ID 1002, and in particular the storage node having the shortest network distance from the control node CN3. See Figure 13 and page 23, lines 14-29 of the specification. Since control node CN2 is nearest, the control node CN 3 receives the file ID 1002 from CN2 and stores it in the storage node SN3 and sends a completion notification of file reception (S84, Fig. 13). In this way, the movement of the file having ID 1002 to the control node CN3 improves the efficiency for the access for client CLN3.

In addition to a replication process in which the file ID 1002 is moved to the control node CN3, a migration process can also be used according to the present invention. Further,

the instruction to copy can be sent in response to a determination based on the collective access history information that the data requested of the client computer has been requested a predetermined number of times from an information resource management device other than the one coupled to the storage device storing the requested data. See claim 27 of the newly added claims. According to the aspects of the present invention, the efficiency of access of files is improved by duplicating or migrating files as a result of a determination made by considering access history information that is collected.

In Dettinger, on the other hand, a source database management system is disclosed that has an access manager that implements a replication schedule for replicating data to one or more client systems. The system of Dettinger has a plurality of computers and a server 102 that has a database 107, as shown in Figure 1A. Each of the individual clients 115 has its own target database 128 as shown in Fig. 1B. In Dettinger, the client computer makes requests of the server data stored in a main database and receives the requested data. The server records log information for the requests from the client and determines if a replication threshold has been met, as shown in step 220 of Figure 2. If the threshold is met, then the data is replicated and the client 120 receives the replicated data and sends an acknowledgment. See paragraph [0032] and [0033] of Dettinger.

The present invention differs from that of Dettinger since although Dettinger discloses client computers each having a target database, there is no disclosure of one client computer accessing the target database of a different client computer since each of the client computers accesses the main database 107 and the server computer. Accordingly, the data being

accessed by the client computers is always stored in the same storage device and as a result the reference does not suggest the claimed arrangement as set forth by Applicants.

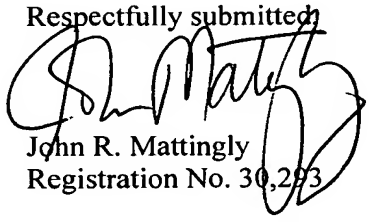
In Jones, a method is disclosed for improving redundancy in load sharing by incorporating an OSPF (Open Shortest Path First Protocol) in a router. The reference does not disclose or suggest a computer system having an access history management device and a plurality of information resource management devices coupled to a storage device and to a client computer, as in the present invention. Further, there is no suggestion to one having ordinary skill in the art of combining the teachings of Jones with Dettinger in order to render any of new claims 19-34 unpatentable.

New claims 19-34 are patentable over the reference to Dettinger and the combination of Dettinger and Jones for the foregoing reasons. Further, the claims are patentable over each of the references of record whether each is considered individually or in combination. Accordingly, allowance of claims 19-34 is earnestly solicited.

Conclusion

In view of the foregoing, Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,



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